DIRECT DOWN-CONVERSION RECEIVER WITH
TRANSCONDUCTANCE-CAPACITOR FILTER AND METHOD

Abstract of the Disclosure

A direct-down conversion receiver may include a transconductance-capacitor (GmC) filter to filter undesirable mixing products and provide a filtered baseband-differential signal. The GmC filter may include first and second transconductance-capacitor (GmC) circuits in series and a transconductance-feedback circuit in feedback with the second transconductance-capacitor circuit. The GmC circuits may comprise cross-coupled pairs of transistors to receive a baseband-differential signal and generate a differential output current. The GmC circuits may also comprise MOSCAPs coupled respectively between the differential inputs of the GmC circuit and internal-feedback nodes. In some embodiments, a substantially-constant bias voltage may be maintained across the voltage-dependent capacitors to allow the voltage-dependent capacitors to provide a substantially constant capacitance.

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